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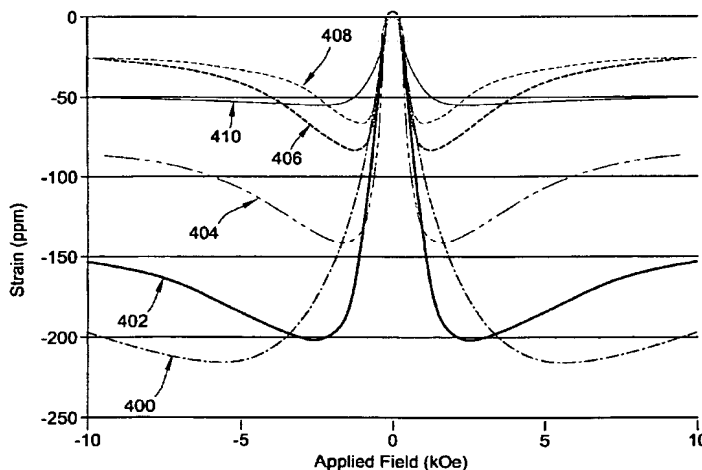
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(54) Title: **COBALT FERRITE BASED MAGNETOSTRICTIVE MATERIALS FOR MAGNETIC STRESS SENSOR AND ACTUATOR APPLICATIONS**



(57) Abstract: Magnetostrictive material based on cobalt ferrite is described. The cobalt ferrite is substituted with transition metals (such manganese (Mn), chromium (Cr), zing (Zn) and copper (Cu) or mixtures thereof) by substituting the transition metals for iron or cobalt to form substituted cobalt ferrite that provides mechanical properties that make the substituted cobalt ferrite material effective for use as sensors and actuators. The substitution of transition metals lowers the Curie temperature of the material (as compared to cobalt ferrite) while maintaining a suitable magnetostriction for stress sensing applications.

WO 2005/081667 A2



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